

## **Effect of elicitors on the production of naringin and rutin in leech lime (*Citrus hystrix*) callus**

### **ABSTRACT**

Treatment of *Citrus hystrix* callus with various types of elicitors decreased the callus growth as the concentration of elicitors increased. However, callus growth remained relatively constant at 0.05% (w/v) alginate and slightly increased to  $1.30 \pm 0.04$  g dwt./culture at 0.1% (w/v) alginate. Analysis of the flavonoids using high performance liquid chromatography (HPLC) showed that only naringin and rutin were produced. Maximum production of naringin ( $12.13 \pm 0.07$  mg/g dwt.) and rutin ( $3.09 \pm 0.05$  mg/g dwt.) ( $p > 0.05$ ) was found in callus treated with 0.5% (w/v) agarose.

**Keyword:** *Citrus hystrix*; Elicitors; Naringin; Rutin contents